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Analyzing the Missing Meal Gap Beyond Elementary School

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A Project in Collaboration with Feeding Our Communities Partners

December 12, 2014

*This project was completed by students in Applied Sociology, Fall 2014 at Minnesota State University, Mankato.

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Defining Hunger and Food Insecurity

Hunger and food insecurity is an issue all around the world and affects many different people. According to Hadley, Zodhiates, & Sellen (2007) food insecurity is limited access to nutritional foods through socially acceptable means, while hunger is the actual pain and discomfort from a lack of eating. Families, children and seniors are among many of those who experience food insecurity and hunger. Seniors who face hunger may have issues getting access to food because of medical and/or mobility challenges. Although, food insecurity is harmful to any individual, it can be particularly detrimental among children. In children, hunger can cause more than just short-term symptoms, it can be the cause of developmental issues, affect academic achievement and future economic prosperity (Feeding America 2014).

Hunger in United States

Hunger is prevalent in the United States, but who is affected? As of 2013, there were 17.5 million households and 49.1 million Americans that were classified as food insecure, including 33 million adults and nearly 16 million children (Feeding America 2014). Hunger and poverty can go hand in hand. As of 2012, 15 percent of people in the United States were living in poverty (Feeding America 2012). According to Bruening et al. (2012) and Edwards et al. (2007), areas with less home ownership tend to have increased poverty. These areas tend to have a higher proportion of families who are struggling with paying for food and the food that is affordable does not necessarily meet most health standards. Income insecurity is leading to unhealthy food purchases (Bruening 2012; Meg 2012; McIntyre 2002).

Hunger in Minnesota and Blue Earth County

Minnesota residents, just like residents of any other state, experience hunger. More specifically, one in nine people struggle with hunger (Feeding America 2014). In Blue Earth County, 19 percent of people live below the poverty line, 12 percent are food insecure and 16 percent are food insecure children. Currently, one in six children do not have the nutrition necessary to live an overall healthy lifestyle (FOCP 2014).

Programs to Combat Hunger in Blue Earth County

In addition to nonprofit organizations such as FOCP, there are several government programs in place in Blue Earth County to help families, adults, elders, and children combat hunger. Some of those programs include the Supplemental Nutrition Assistance Program (SNAP), Women, Infants and Children (WIC) and National School Lunch Program (NSLP). Nationally, in 2013, 62 percent of food-insecure households participated in at least one of these major programs (Feeding America 2014).

Supplemental Nutrition Program

The Supplemental Nutrition Program (SNAP) is one of the largest, federally funded programs that aims to provide a monthly benefit for the purchase of food to low-income families, seniors, adults with disabilities and single adults. A family of four with disabled members must not exceed the monthly income of \$3,976, and a family of four with non-disabled members must not exceed a monthly income of \$3,181 to receive SNAP benefits. Currently in Blue Earth County, there are 5,049 people eligible for SNAP benefits (Minnesota Department of Human Services 2014). 1,130 households that contained children were enrolled in SNAP in 2012 (Kids Count Data Center 2014).

National School Lunch Program

The National School Lunch Program is a federally assisted meal program operating in public and nonprofit private schools and residential child care institutions. It provides nutritionally balanced, low-cost or free lunches to children each school day based on their family's income. This program was established under the National School Lunch Act, signed by President Harry Truman in 1946 (Food Nutrition Assistance, USDA, 2014). In 2012, it provided lunches to over 31 million children (USDA 2014). Depending on the school's need, they can receive a cash reimbursement for each meal served. As of July 2014, schools can receive up to \$2.98 for a free lunch, \$2.58 for a reduced lunch and \$.28 cents for a paid lunch. (FNS.USDA 2014). In order for children to receive a free or reduced lunch, their family must meet income eligibility guidelines. For a family of four, income must not exceed \$3,677 per month to receive a reduced price lunch and must not exceed \$2,584 per month to receive a free lunch. These numbers are closely related to the eligibility criteria of the Supplemental Nutrition Program, so if a family is eligible for SNAP, the family could also be eligible for the Free and Reduced Lunch Program.

Collaboration with Feeding Our Communities Partners

Backpack food programs have sprouted up all over the country. A vast majority of these programs mimic the popular program from Feeding America. This program recruits school officials to discreetly place meal packs into the backpacks of children, during the school day. The meal packs provide easy to prepare meals for children so they do not go hungry over the weekends. Some of the contents of the packs include microwavable pasta, canned goods, juice,

and pudding. These programs are run by nonprofit organizations and community groups such as Feeding Our Communities Partners (FOCP). They seek to address the hunger needs of children that are not addressed by government programs such as SNAP and free and reduced lunch programs.

FOCP is a non-profit organization in Mankato, Minnesota, which is focused on ending hunger in Blue Earth County. In 2010, FOCP piloted the Backpack Food Program. By January 2016, the Backpack Food Program will be available in every elementary school in Blue Earth County. Findings support that backpack food programs are an effective way to improve a student's self-esteem and sense of self-worth and relationships with others (Milewska and Rodgers 2007). Students from Minnesota State University, Mankato, collaborated with Feeding Our Communities Partners in the fall semester of 2014 as part of an Applied Sociology course, to conduct research to help guide them in a direction that aligns with their mission as they decide how to direct future programs to alleviate hunger in Blue Earth County.

Methods

While collaborating with FOCP we used a multi-method approach throughout the research process. We conducted a literature review, a needs assessment of hunger in Blue Earth County, case studies of existing programs, and qualitative interviews with professionals who work with the youth.

Literature Review to Identify Vulnerable Population

We conducted a needs assessment addressing hunger in Blue Earth County. Through this assessment we found a need to solve hunger in the junior and senior high age category. As will be discussed in more detail below, though many different populations are shown to be

hungry through articles and data from the census, we concluded it would be best to move forward working with a population that FOCP is already familiar with.

Interviews

In conjunction with the needs assessment, we also conducted qualitative research. We conducted six interviews with various professionals who work with youth in Mankato and nationally. These professionals included social workers and food directors in Independent School District 77 (ISD 77), as well as other faculty at St. Clair and Lake Crystal School districts (see appendix B for a list of interviewees and their affiliations). To identify those who would participate in our interviews, we utilized the snowballing sampling technique, where we asked the interviewee at the end of the interview if there were others they could refer us to. Although this did not provide us with a representative sample, it allowed us to identify practitioners who have experience working with those who are food insecure and experience hunger within this age group. Open-ended questions during the interview process helped to analyze and interpret the data more in depth and allowed for the conversation to reveal new information we found pertinent to our study.

There were a few limitations we found from the snowballing technique. Some of the people we contacted did not have time to speak with us. This causes a small sample in our interviews. Another limitation is that some interviews would not bring about new information for our research. Both of these limitations combined with a limited time frame for the project were a hamper in acquiring more information through qualitative techniques.

Case Studies

Our literature review and interviews led us to our next step in our research which was to review existing programs to learn which were effective and what it involved as far as funding, sponsors, grants and volunteers to run a successful program for junior high and senior high students. Once we learned about several successful programs we sought out the differences and similarities between them. We learned what non-profit organizations or food banks funded each program, the population it targeted, and what sort of outcomes and benefits it provides. Our case study sample is limited in that most programs in the country are based off of a few core programs and lack variability. Feeding America, a nationwide non-profit and network of food banks, sponsors programs for communities all over the United States. It learned how to make its after school programs, food banks, and school pantry programs a huge success and use the same model time after time. Because of this, there is not a whole lot of variation when it comes to programs. Another limitation we found is that information is not often shared when a program fails. We were not able to research what factors make programs ineffective.

After gathering data about participation in free and reduced lunch programs in every school in Minnesota we did a comparative analysis of Blue Earth County schools and the rest of Minnesota (See appendix F). Then, we were able to measure the drop off between free and reduced lunch participation from junior and senior high then again to elementary school (See appendix D). The statistics we found were able to guide us to develop hypothetical solutions and further evaluate the programs we researched, and how they could apply to the school districts in our community.

Actual Free and Reduced Lunch Participation in Blue Earth County

When comparing free and reduced lunch participation between Blue Earth County and Minnesota as a whole,

the numbers were

within a few

percentage points.

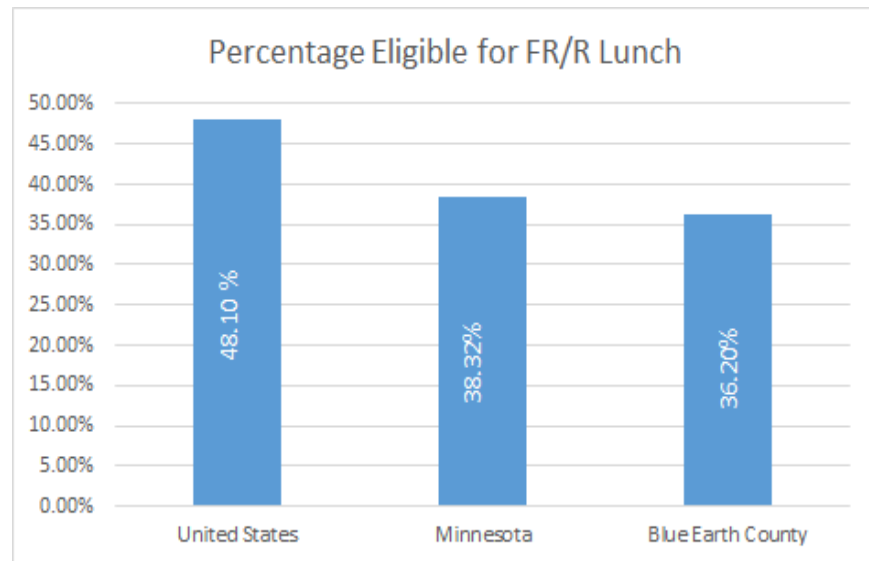
With Blue Earth County

at 36.2 percent and

Minnesota at 38.3

percent. Although

these numbers are well



below the United States 48.1 percent, we did see the need in our community was relative to the state need.

The Need in Mankato

In 2010, Food and Research Action Committee (FRAC) studied perceptions of hunger in the United States. This perception of hunger report concluded that people perceived hunger as a national problem; but as the questions pertained to their local community, they did not see the need. This highlights that hunger is often not something that is visible but is a hidden problem that until uncovered can damage a community at large. Blue Earth County's population, as was previously discussed, suffers from food insecurity even if it is not obvious to community members.

FRAC released a report in 2010 that showed a near even disbursement of non-participation between families with elderly (37.2 percent), disabled (36 percent), and children (33.4 percent) for the SNAP program in the United States. Because there is not an elevated need in any specific population, and considering that FOCP implemented the Backpack Food Program for elementary schools and has experience working in the Blue Earth County school system, we concluded that the next need was junior and senior high. Specifically, we recommend:

Recommendation 1: Feeding Our Community Partners should develop a program to address hunger among junior and high school students in Blue Earth County, MN.

Interviews with school officials support the importance of such a program in Blue Earth County. With the assistance of Ron Schirmers, Food Director for ISD 77, we were able to obtain breakfast and free and reduced lunch participation for each school in the district. The level of participation does not dramatically shift from elementary to junior high. There is a drop off of nearly seven percent, when going from junior high to senior high. This can be partially attributed to senior high students gaining more independence and attaining additional responsibilities such as jobs. Additionally, as we will discuss in more detail below, youth in this age group are also more likely to be impacted by the stigma associated with hunger and so they may be less likely to access existing programs.

A program directed toward junior high students will be particularly relevant for Prairie Winds Junior High. In an interview with Molly Fox, ISD 77 social worker, it has been brought to our attention that Prairie Winds Junior High will opening up in Mankato in fall of 2016. This junior high will house 6th, 7th and 8th graders. Currently, 6th graders that are participating in

the FOCP's BackPack Food Program will move to this new junior high. The main issue here is getting food to these children in a new way that is discrete and also provides for 7th and 8th graders.

Additional Education for School Faculty and Families

From our interviews with school social workers, health professionals and school faculty, our second recommendation is to educate parents and school staff about programs like SNAP.

Recommendation 2: Feeding Our Communities Partners should seek to increase utilization of hunger programs in Blue Earth County by educating parents and school staff about programs available to alleviate food insecurity among children.

We have found that there is a lack of knowledge of and participation in these programs. A suggestion made by Leah Shanks, school counselor at Dakota Meadows, was to utilize the "Tuesday Folder", a folder sent home on Tuesday evenings that provides parents with information related to the school. Ms. Shanks also mentioned the idea of sending out email blasts. Lastly, understanding assets is key to filling any gap. Teachers can be an advantage for combatting child hunger. Providing teachers with knowledge about food assistance programs and the needs of their students and families will help them to ensure their students are receiving proper nutrition outside of school.

Tangible Programs for FOCP Moving Forward

We have identified three tangible programs for FOCP to examine while they address various hunger issues in the Blue Earth County area. As discussed in further detail below, we are proposing a breakfast program, an afterschool program, or the option for FOCP to consider

developing their own initiative while congruently understanding important cultural considerations. The programs being proposed have been evaluated and comparatively measured to fit in to the Blue Earth County school system.

Breakfast Seen as the Missing Meal

Not only does hunger affect behavior in the classroom but it also affects learning over the course of the school year (Ecker 2012). Eating breakfast is proven to help students in the classroom by improving their focus. Students who eat breakfast often get better grades and score well on tests. Students that are eligible for the free and reduced lunch program also qualify for free breakfast at school, but our research shows that breakfast participation is lacking within the national and local school system. Nationally in 2011, less than half of students who participated in free and reduced lunch, participated in the Free Breakfast program at their schools. On the local level in 2014, only 24 percent of the entire Mankato East Senior High School student body participated in breakfast. At East Junior High only 23 percent, 9.6 percent at Mankato West Senior High and at Dakota Meadows Junior High only 8.0 percent of students out of the whole school participated in school breakfast. Stigma has shown in previous research to prevent students from participating in free and reduced lunch (Rogers and Milewska 2007). Specifically, in relation to our community, we were concerned with participation in the breakfast program. Through interviews with counselors and social workers, Leah Shanks, Mary Beth Patterson, and Cathy Ching, we found that stigma was a large detractor from participation in breakfast programs in senior high (See appendix B). In order to resolve this, FOCP can help the school districts in Blue Earth County implement a breakfast program for

junior high and senior high students. We believe that a breakfast program is the most viable option to addressing the hunger issue in junior and senior high students.

Grab-N-Go

Because kids are not eating breakfast before school, our first suggestion is for FOCP to create or advocate for a breakfast program modeled after a Grab-N-Go breakfast. This program is set up through the National School Lunch Program and would assist junior high and senior high students in eating a healthy breakfast before the start of their school day. Ensuring that breakfast is available to everyone, reduces the stigma associated with hunger. It is free for the students on free and reduced lunch program, and \$1.50 for all other students. Because the breakfast is low in cost, students are much more likely to consume breakfast at school which helps to decrease the stigma that goes along with school breakfast. If students do not have a chance to finish their breakfast before school, they are given the first ten minutes of class to enjoy their breakfasts in the classroom. Some Grab-N-Go breakfast programs pack breakfasts with a granola bar, fruit, and a beverage; others have full breakfasts that include items like pancakes, French toast, or omelets. One criticism of this program is that it could cause too much of a mess and add chaos to the classroom, however, schools that have implemented this program have found that their students are respectful of their teachers and classroom facilities (San Francisco Board of Education 2003). The teachers are only expected to put the full garbage bags in the hall for a custodian to pick up after the breakfast is over.

Afterschool Program.

Our second suggestion is an afterschool program. Afterschool programs have many benefits including a place for students to be active, eat, and learn healthy lifestyle tips.

Secondary benefits for parents include extra care for their child, another snack they do not have to provide, and for those parents who work later they do not have to find extra care.

Kids Café

A second program we found during our case study research is for an after school program called Kid's Cafe. This program is sponsored by local food banks, Boys and Girls Clubs, and/or Feeding America to promote healthy living and nutrition education to students 15 or under. These programs are often held at schools, churches, or other community buildings that are willing to donate their facilities. After school programs like Kid's Cafe are not able to provide students with dinner, but they can provide a snack after school and education on which foods are healthy for growing bodies and how to cook a nutritious meal.

When placed inside the school this program can be located in a food and consumer science room. These rooms provide many cooking utensils and the ability to use ovens and stoves. By enabling kids to cook and experience this process together it reduces a lot of the stigma attached to hunger. The real life cooking experience can encourage children to explore more ways to provide for themselves and normalize the process of self-providing. Another key benefit from this program is that kids are surrounded by peers and can enjoy this new experience.

Implementing your own program

When creating a new program it is of great importance to understand pre-existing assets. For a successful program, it is key to utilize all available partners including major partners such as: the United Way, the Otto Bremer Foundation, and the Robert E. Fraser Foundation. Knowing how to utilize the additional resources of community partners will help

develop a successful program. We discuss below the important considerations to consider if FOCP creates its own program or implements any new program.

Considerations

When initiating or implementing any program, we recommend considering barriers such as: language, cultural differences, and transportation. Language can be a barrier for those families where English is not the first language. Also cultural differences may limit certain participation in programs if they do not feel that particular programs fit into their beliefs. Lastly, transportation is a hurdle for many families. If the new program is not located within the school, then a bus system will be needed to transport kids to this program. A strong recommendation is made to implement, when possible, a program located within the school to ease transportation issues. These considerations will help implement a program that will consider multiple external barriers that have risen in previous programs. Overall these programs and recommendations will help alleviate hunger and stigma among junior high and senior high students in Blue Earth County.

Conclusion

Throughout the semester, researchers from Minnesota State University, Mankato conducted a needs assessment for the Blue Earth County area. Through the needs assessment, a few key items emerged that need attention. Hunger is prevalent in the community but it may not always be recognized. There are some programs federally and locally that aid in hunger relief which are SNAP, the National School Lunch program and Backpack programs. Although, these programs work to help families and children, it has been brought to the attention of the researchers that there is a lack of knowledge about these programs and the programs are

lacking in help for youth in junior and senior high schools. FOCP should move forward by working to educate parents and school officials about federal and local programs so families can take advantage. FOCP should work to implement either a breakfast program or an after school program, although, the researchers think a breakfast program would be most beneficial for this particular age group.

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Appendices:

- A. Interview questions
- B. Interview Matrix
- C. Program Matrix
- D. Graphs
- E. Free/reduced lunch data from Ron Schirmers and Maple River
- F. State/county to national level data on Free/reduced lunch
- G. Individual Annotated Bibliographies

A. Interview questions

1. How do you get your information?
2. Who do you directly work with?
3. What are the student's needs?
4. What are the family's needs?
5. What family dynamics do you see?
6. Are families using other programs?
7. How does hunger affect students in the classroom?
8. What is the biggest need?
9. Participation in free and reduced lunch?
10. Can you refer me to someone else that can help me gather more information?
11. Do you see a lot of students going off campus for lunch?
12. If so, do they eat or do they go to socialize?
13. Do you see the free and reduced lunch kids going off campus for lunch?
14. Is family consumer education a required class?

B. Interview Matrix

Appendix D Interview Matrix			
	Mary Beth Patterson-Social Worker East Senior High	Kate Cox-Social Worker at Mayo	Leah Shanks-Counselor Dakota Meadows
Who do you directly work with?	Students at East High School and Central High School (Alternative school).14-20 years old.	Peds, adolescents- 18 and under and their parents	All students, parents, and faculty
What are the students needs?	Voices concerns about material things, not hunger	Kids can't always identify their needs; they don't always know they should be eating 3 meals a day. To some kids eating 1 meal is normal	Not everyone is getting breakfast. Students are embarrassed that they don't have resources and are scared to ask.
What are the families' needs?	Social and emotional support	X	Some parents are not aware of the resources available to them.
What family dynamics do you see?	Chaos, absent parents, hostility and hopelessness	Stressed, crisis, abuse, chemical dependency, illness	High functioning, single parents, living in foster care or with grandparents, parents with disabilities, parents who are unemployed
How does hunger affect students in the classroom?	Poor concentration, anxiety, challenging behaviors	Teachers refer students to doctors thinking they have ADD or ADHD but they are just hungry.	It does impact learning. More focus on being hungry, less on education. Not everyone gets breakfast.
What is the biggest need?	Mental health support	X	X
Participation in free and reduced lunch?	50% at East, 95% at Central	A large number of students participating	A large population on free and reduced. Guessed about 25-

			30%
Do you see a lot of students going off campus for lunch?	Only juniors and seniors can go off campus for lunch	X	X
If so, do they eat or do they go to socialize?	They eat.	X	X
Do you see the free and reduced lunch kids going off campus for lunch?	Not usually	X	X
Is family, consumer ed a required class?	It is in Jr. High, but not High school	X	X
Do you see people using food assistance programs?	Some. I find that if they are not connected , they either don't want to be or just got into their situation and did	Yes, and she helps people to enroll	Yes
Which age do you see struggling with hunger?	X	All ages! Would like to see it expanded to Jr. high and high school	X
What is a good way to get information about assistance programs out there to parents?	X	X	Put it in Tuesday folders, email blasts
	Cathy Ching - Coordinator at Brookings	Molly Fox	

		All ISD 77	
Who do you directly work with?	Students need breakfast but are unwilling to eat free and reduced	Jr/Sr high needing a program	
What are the student's needs?		X	
What are the family's needs?		X	
What family dynamics do you see?		At this age they are more vocal. If they are hungry and feel comfortable enough they will talk to faculty. They might be acting out or have inappropriate behavior.	
How does hunger affect students in the classroom?	Reducing stigma	Getting food on the weekends for 7-12	
What is the biggest need?	38% qualify for free/reduced on the income level	25-30%	
Participation in free and reduced lunch?	Lots of students will go to the convenience store to buy food.	Senior high kids are more independent and do not stay at school	
Do you see a lot of students going off campus for lunch?	They eat but she thinks it's mostly about socializing	X	
If so, do they eat or do they go to socialize?	Same as 9.	X	
Do you see the free and reduced lunch kids going off campus for lunch?	Not sure if they even have consumer ed.	X	
Is family, consumer ed a required class?	I see people using it but more are qualified that are not	School tries to connect them to the county. They do not	

	using it.	advertise country resources.	
Do you see people using food assistance programs?	All ages struggle but the stigma is great for middle and high school students.	All, would love to see a program for junior and senior high children	
Which age do you see struggling with hunger?	Information is put in when they pack on Wednesday's.	X	
What is a good way to get information about assistance programs out there to parents?			

Appenix C- Program Matrix			
	Kids Cafe of Detroit Lakes MN	Northern Lakes Food Bank	Backpack Program Maine 2010
<i>Location</i>	Detroit Lakes Minnesota	Duluth Minnesota	Maine
<i>Who sponsors the program?</i>			
Food Bank	X	X	X
SBP funded			
Non-Profit Agency			
Feeding America Affiliate	X	X	X
Partnerships	X	X	
<i>Who benefits?</i>			
Families		X	
Adults		X	
Children	X	X	X
<i>Source of Funds</i>			
Sponsorships	X	X	X
Grants	X	X	
Budget	X	X	
<i>Type of program</i>			
Cooking Class			
Pantry Program			
Backpack program		X	X
Kids Cafe	X	X	
Breakfast Program			

<i>Comments</i>	The Boys and Girls Club of Detroit Lakes, Minnesota, in partnership with North Country Food Bank and Feeding America, operates a Kid's Cafe. This is one of the country's largest free meal service programs for children at risk of hunger. There are over 1,600 separate locations nationwide. The Kid's Cafe in Detroit Lakes serves approximately 75 children per day, five days a week. It provides the children with somewhere to go, and something good to eat.	In partnership with Feeding America – the Nation's Food Bank Network and local programs Damiano Center and Boys & Girls Club of Duluth, we ensure the feeding of children at Kids Cafe®	
<i>Findings</i>			
Beneficial to students	Beneficial to Students		Beneficial to students
<i>Results</i>		Each week nearly 700 bags of food are provided to children throughout NE Minnesota and NW Wisconsin as part of our local Backpack programs	2014 expanded into 39 schools across Maine, reaching over 1,000 food insecure children each week.
		http://www.northernlakesfoodbank.org/docs/Backpack%20Program%20Summary%202014.pdf	
		http://www.northernlakesfoodbank.org/docs/2012Audit.pdf	

	Pantry Program Maine 2012	Kids Cafe Maine 2011	Texas Hunger Initiative 2012-2013
<i>Location</i>	Maine	Maine	Waco, Texas
<i>Who sponsors the program?</i>			
Food Bank	X	X	
SBP funded			
Non-Profit Agency			
Feeding America Affiliate	X	X	
Partnerships		X	
<i>Who benefits?</i>			
Families			
Adults			
Children	X	X	X
<i>Source of Funds</i>			
Sponsorships	X		
Grants			
Budget			X
<i>Type of program</i>			
Cooking Class			
Pantry Program	X		
Backpack program			
Kids Cafe		X	
Breakfast Program			
<i>Comments</i>		The program not only provides kids with nutritious dinners every day after school, but also a safe place with adult supervision, so they can work on homework, learn about healthy life choices and nutrition, explore new interests, or just hang out with friends in a wholesome environment.	Funded by the National School Lunch Program (NSLP). Promotes children to eat breakfast before school by implementing a "grab n go"

			breakfast, or breakfast in the classroom. They provide all students with free breakfast to reduce stigma.
<i>Findings</i>			
Beneficial to students	Beneficial to students		
<i>Results</i>	spring of 2013, six additional sites were launched, 2014 the program has grown to reach 30 schools in 13 counties.	Fall of 2012, Good Shepherd Food Bank launched 2 additional Kids Cafe sites,	
	Brookings South Dakota	Grab n Go Breakfast	Action for healthy kids
<i>Location</i>	Brookings South Dakota	Balboa, CA	Chicago IL
<i>Who sponsors the program?</i>			
Food Bank	X		
SBP funded		X	
Non-Profit Agency	X		X
Feeding America Affiliate			
Partnerships	X		
<i>Who benefits?</i>			
Families	X		
Adults		X	
Children	X	X	X
<i>Source of Funds</i>			
Sponsorships			X
Grants	X		
Budget	X	X	

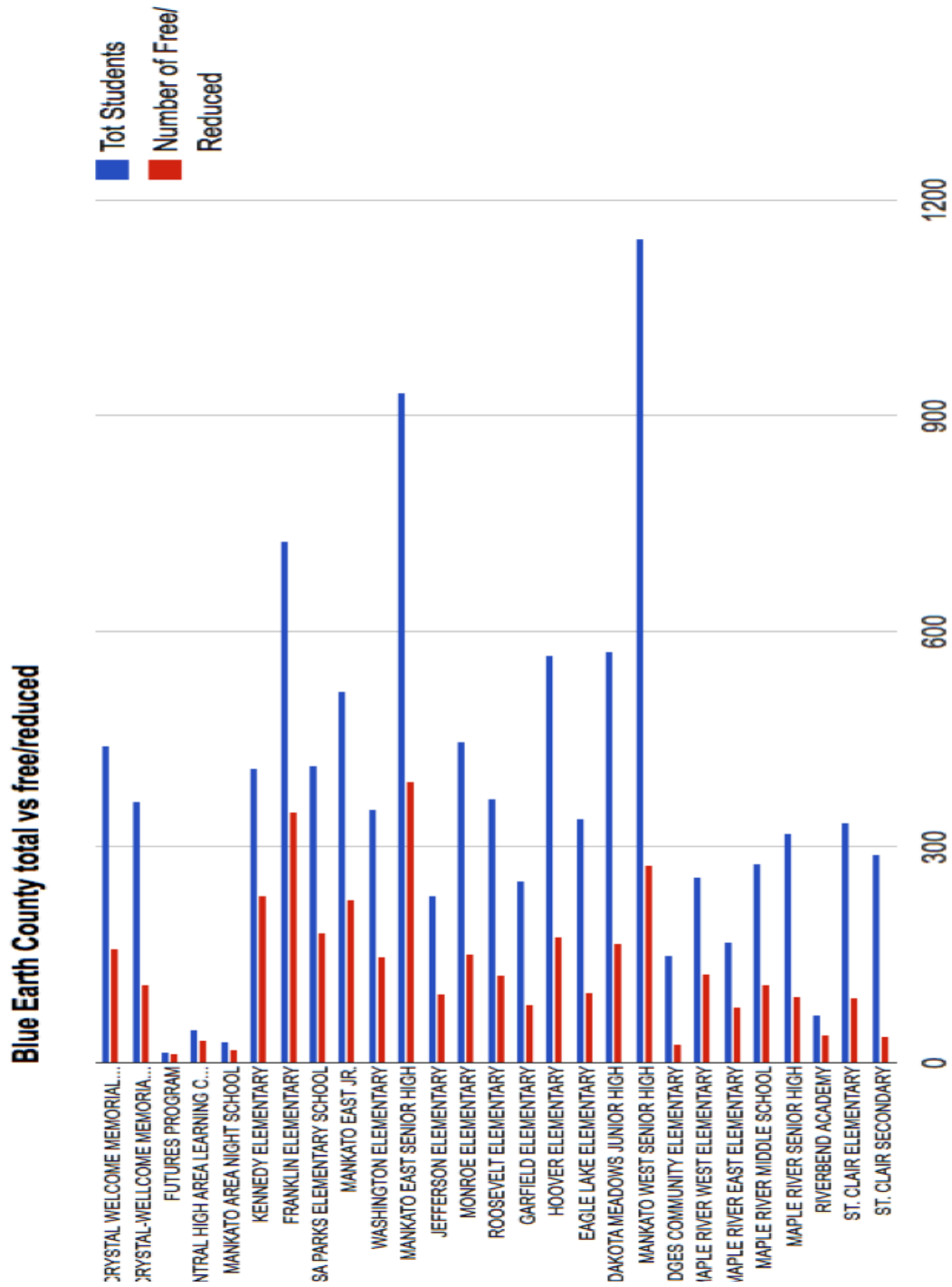
<i>Type of program</i>			
Cooking Class			
Pantry Program			
Backpack program	X		
Kids Cafe			
Breakfast Program		X	X
<i>Comments</i>	<p>This program does not have an income guideline which helps those on the border of free/reduced lunch and also those families who might just be in debt but still register at a higher income. Also life circumstances happen and in times of need it is nice to have a program available to help without any questions.</p>	<p>This program is funded by the school lunch program. Students and teachers can get lunch at school up to 10 minutes before school starts. F/R lunch students get it free, other students pay \$1.50 and teachers pay \$2. They have the first 10 minutes of class to have breakfast.</p>	<p>Grab 'N' Go breakfasts are packaged in paper bags, boxes or trays. Students pick up their breakfast and eat it when and where they want, within school guidelines. Food service staff pack reimbursable breakfasts into individual paper bags, usually the day before, or purchase prepackaged reimbursable breakfasts in boxes. These are served with milk the next morning. Breakfasts are usually cold, but can include hot items as well.</p>

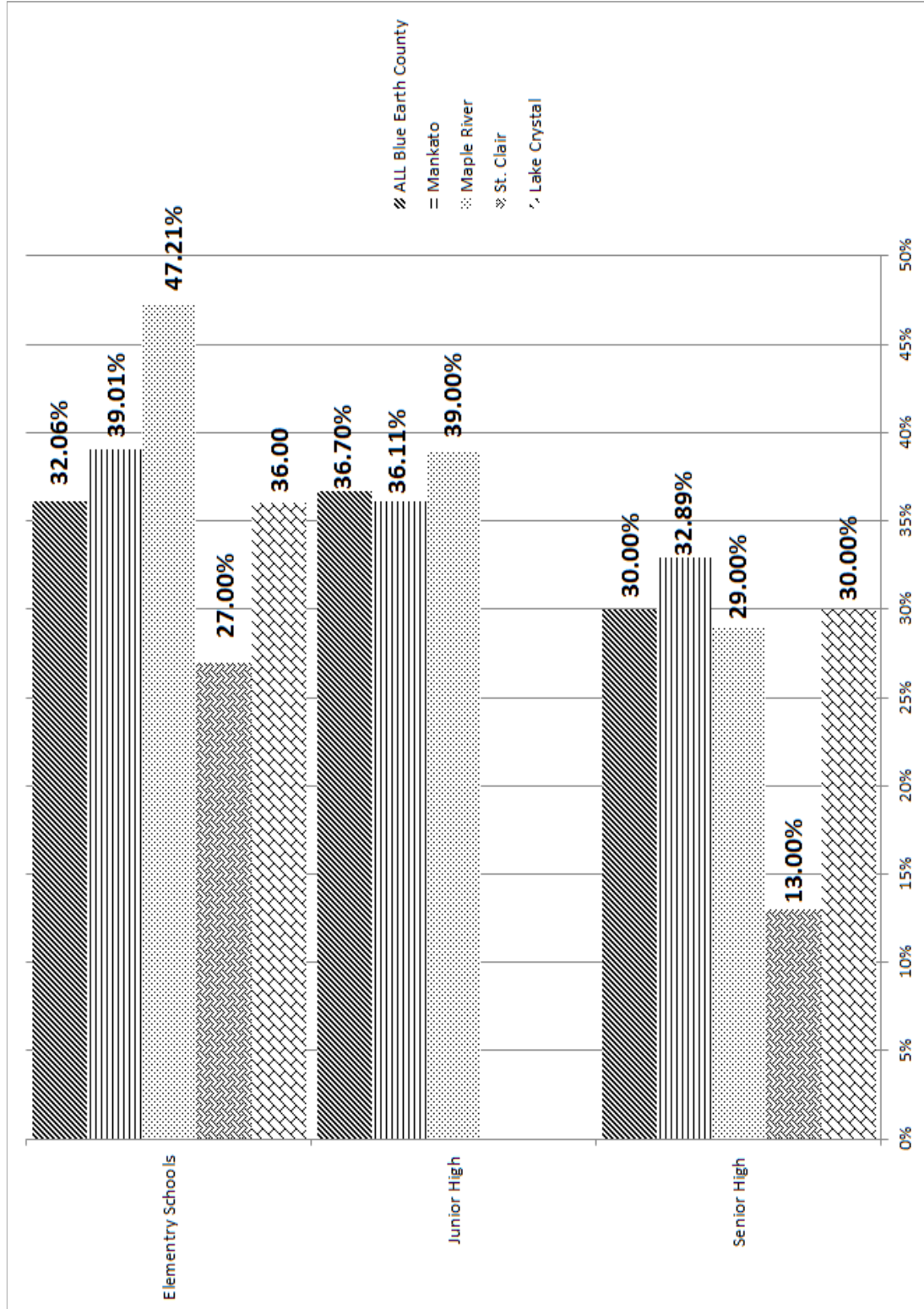
<i>Findings</i>			
Beneficial to students			
<i>Results</i>		Students are much more focused in the classroom on learning than being hungry	Grab 'N' Go breakfasts bring breakfast to the student, making it easier for them to choose to eat breakfast. Many students may not be hungry first thing in the morning or they want to hang out with friends. Grab 'N' Go breakfasts allow students the flexibility and choice to eat breakfast where and when they want.
	San Diego Unified School District	Maryland Hunger Solutions	Kids Cafe North Carolina
<i>Location</i>	San Diego CA		
<i>Who sponsors the program?</i>			
Food Bank			X
SBP funded	X	X	
Non-Profit Agency		X	
Feeding America Affiliate			
Partnerships			
<i>Who benefits?</i>			

Families			X
Adults			
Children	X	X	
<i>Source of Funds</i>			
Sponsorships		X	X
Grants		X	X
Budget			
<i>Type of program</i>			
Cooking Class			
Pantry Program			
Backpack program			
Kids Cafe			X
Breakfast Program	X	X	
<i>Comments</i>	In more than 46 elementary schools in the San Diego Unified School District, the school day starts with a teacher teaching...and the students eating.		This program out of NC supports 26 Kids Cafes in the state. They provide mentoring, nutrition education, nutritious meals, physical activities and parental empowerment.
<i>Findings</i>	The innovative Breakfast in the Classroom Program ensures each student starts the day right, with a nutritious breakfast.		
Beneficial to students			
<i>Results</i>			
	Menu		
	Meal Prices 2014-2015		
	Lunch	Breakfast	

	Elementary student \$2.00	1	
	Free & Reduced-Price Free	free	
	Adult w/o beverage \$3.50	2.5	
	Second student meal \$3.50	2.5	
	Milk \$.50	0.5	

D. Graphs





E.

14-15 Maple River Middle School 101 6th Ave NE, Mapleton MN 56065 Generated on 10/06/2014 01:52:21 PM Page 1 of 2	Edit Check Day: 10/06/2014 Calendar: 14-15 Maple River Middle School
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Daily Participation									Total Days	Maximum Enrollment			
Program	Paid	% Participation	Reduced	% Participation	Free	% Participation	Total	% Participation		Paid	Reduced	Free	Total
NSLP	102	82.26	34	100	58	85.29	194	85.84	1	124	34	68	226
NSBP	7	5.65	7	20.59	18	26.47	32	14.16					

14-15 Maple River Middle School														
NSLP - National School Lunch Program MEALS SERVED					Daily Maximums				Attendance		Actual Enrollments			
Date	Paid	Reduced	Free	Total	Paid	Reduced	Free	Total	ADA	Attend Factor	Paid	Reduced	Free	Total
10/06/2014	102	34	58	194	118	32	65	215	215	95.0815	124	34	68	226
Total	102	34	58	194	118	32	65	215	215	95.0815	124	34	68	226

10/06/2014 NSLP/Reduced

34

14-15 Maple River High School 101 6th Ave NE, Mapleton MN 56065 Generated on 10/06/2014 01:52:58 PM Page 1 of 2	Edit Check Day: 10/06/2014 Calendar: 14-15 Maple River High School
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Daily Participation									Total Days	Maximum Enrollment			
Program	Paid	% Participation	Reduced	% Participation	Free	% Participation	Total	% Participation		Paid	Reduced	Free	Total
NSLP	157	74.76	25	89.29	71	85.54	253	78.82	1	210	28	83	321
NSBP	11	5.24	7	25	23	27.71	41	12.77					

14-15 Maple River High School														
NSLP - National School Lunch Program MEALS SERVED					Daily Maximums				Attendance Attend Factor		Actual Enrollments			
Date	Paid	Reduced	Free	Total	Paid	Reduced	Free	Total	ADA		Paid	Reduced	Free	Total
10/06/2014	157	25	71	253	200	27	79	306	305	95.0627	210	28	83	321
Total	157	25	71	253	200	27	79	306	305	95.0627	210	28	83	321

14-15 Maple River East Elementary 126 Highie Ave, Minnesota Lake MN 56068 Generated on 10/06/2014 01:44:34 PM Page 1 of 2	Edit Check Day: 10/06/2014 Calendar: 14-15 Maple River East Element
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Daily Participation									Total Days	Maximum Enrollment			
Program	Paid	% Participation	Reduced	% Participation	Free	% Participation	Total	% Participation		Paid	Reduced	Free	Total
NSLP	82	72.57	17	94.44	40	78.43	139	76.37	1	113	18	51	182
NSBP	16	14.16	9	50	26	50.98	51	28.02					

14-15 Maple River East Element														
NSLP - National School Lunch Program MEALS SERVED					Daily Maximums				Attendance Attend Factor		Actual Enrollments			
Date	Paid	Reduced	Free	Total	Paid	Reduced	Free	Total	ADA		Paid	Reduced	Free	Total
10/06/2014	82	17	40	139	110	17	49	176	176	96.9551	113	18	51	182
Total	82	17	40	139	110	17	49	176	176	96.9551	113	18	51	182

14-15 Maple River West Elementary 311 Willard St, Good Thunder MN 56037 Generated on 10/06/2014 01:51:38 PM Page 1 of 2	Edit Check Day: 10/06/2014 Calendar: 14-15 Maple River West Element
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Daily Participation									Total Days	Maximum Enrollment			
Program	Paid	% Participation	Reduced	% Participation	Free	% Participation	Total	% Participation		Paid	Reduced	Free	Total
NSLP	132	88.59	20	95.24	67	93.06	219	90.5	1	149	21	72	242
NSBP	30	20.13	17	80.95	47	65.28	94	38.84					

14-15 Maple River West Element														
NSLP - National School Lunch Program MEALS SERVED					Daily Maximums				Attendance Attend		Actual Enrollments			
Date	Paid	Reduced	Free	Total	Paid	Reduced	Free	Total	ADA	Factor	Paid	Reduced	Free	Total
10/06/2014	132	20	67	219	146	21	70	237	236	97.71	149	21	72	242
Total	132	20	67	219	146	21	70	237	236	97.71	149	21	72	242

**0077 MANKATO PUBLIC SCHOOL
DISTRICT District**

Generated on 09/26/2014 02:10:58 PM Page 1 of 2

Daily Transaction Summary Report for 09/29/2014

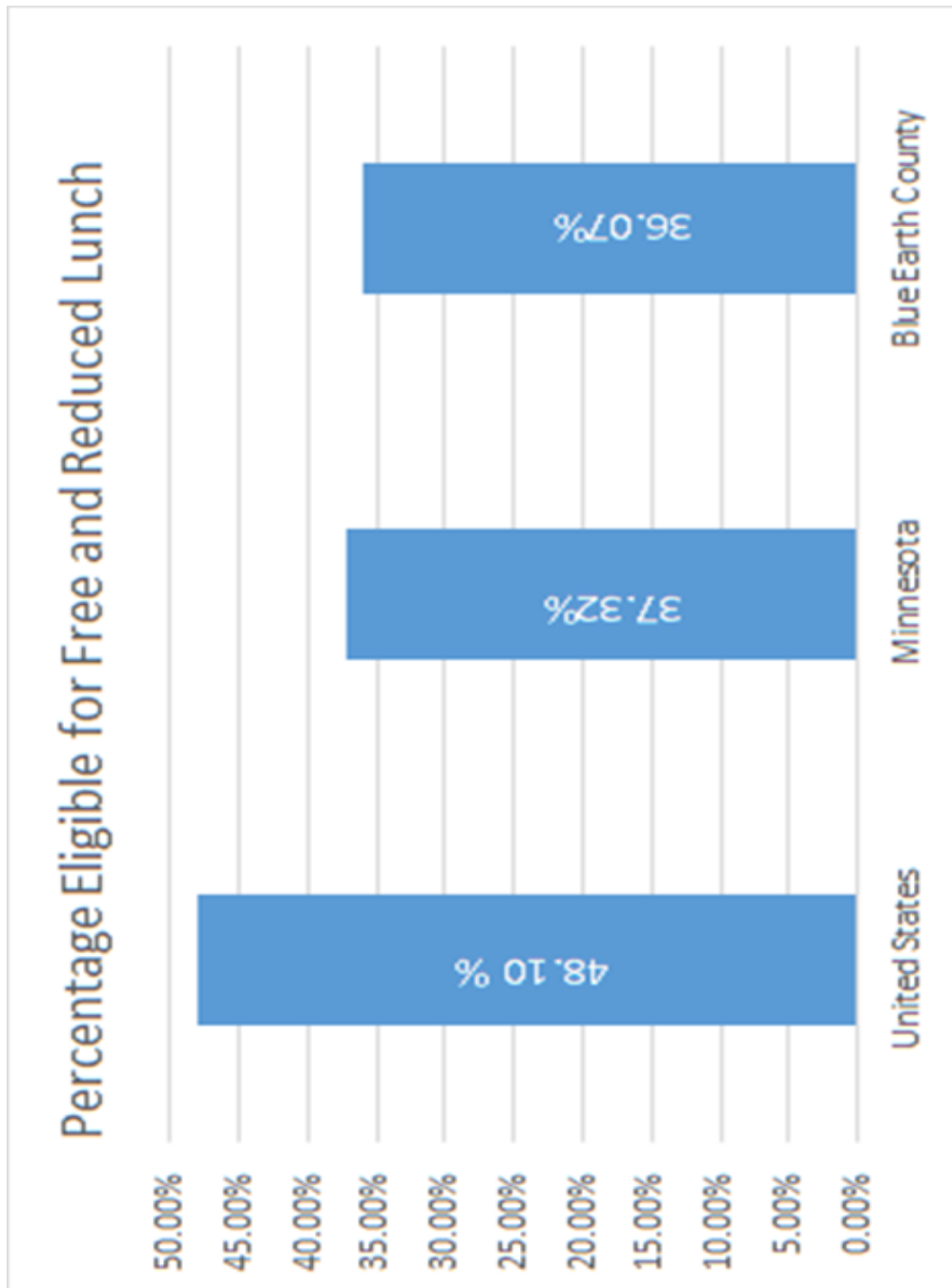
Total Schools: 37 Total Services: 17
Date Type: Transaction Date Print Options: Student and Adult
Group By: Patron

T

GENERAL SUMMARY

School #	School Name	Patron	Food Served	Days	Enrollment Count	Eligibility			Total Item Sale	Cash Sale	POS Deposit	Total Cash
						Paid	Reduced	Free				
#230	ADULT DIPLOMA	Student	1	1	1	1	0	0	\$0.00	\$0.00	\$0.00	\$0.00
		Adult	1						\$0.00	\$0.00	\$0.00	\$0.00
Sub-Total					1	1	0	0	\$0.00	\$0.00	\$0.00	\$0.00
#060	BRIDGES COMMUNITY SCHOOL	Student	1	1	147	121	8	18	\$0.00	\$0.00	\$0.00	\$0.00
		Adult	1						\$0.00	\$0.00	\$0.00	\$0.00
Sub-Total					147	121	8	18	\$0.00	\$0.00	\$0.00	\$0.00
#260	CENTRAL FREEDOM SCHOOL	Student	1	1	5	0	0	5	\$0.00	\$0.00	\$0.00	\$0.00
		Adult	1						\$0.00	\$0.00	\$0.00	\$0.00
Sub-Total					5	0	0	5	\$0.00	\$0.00	\$0.00	\$0.00
#220	CENTRAL HIGH SCHOOL	Student	1	1	56	16	6	34	\$0.00	\$0.00	\$0.00	\$0.00
		Adult	1						\$0.00	\$0.00	\$0.00	\$0.00
Sub-Total					56	16	6	34	\$0.00	\$0.00	\$0.00	\$0.00
#888	COMMUNITY EDUCATION	Student	1	1	7	2	0	5	\$0.00	\$0.00	\$0.00	\$0.00
		Adult	1						\$0.00	\$0.00	\$0.00	\$0.00
Sub-Total					7	2	0	5	\$0.00	\$0.00	\$0.00	\$0.00
#190	DAKOTA MEADOWS MIDDLE SCHOOL	Student	1	1	561	368	48	135	\$0.00	\$0.00	\$0.00	\$0.00
		Adult	1						\$0.00	\$0.00	\$0.00	\$0.00
Sub-Total					561	368	48	135	\$0.00	\$0.00	\$0.00	\$0.00
#150	EAGLE LAKE ELEMENTARY SCHOOL	Student	1	1	363	264	27	72	\$0.00	\$0.00	\$0.00	\$0.00
		Adult	1						\$0.00	\$0.00	\$0.00	\$0.00
Sub-Total					363	264	27	72	\$0.00	\$0.00	\$0.00	\$0.00
#090	FRANKLIN ELEMENTARY SCHOOL	Student	1	1	697	359	61	277	\$0.00	\$0.00	\$0.00	\$0.00
		Adult	1						\$0.00	\$0.00	\$0.00	\$0.00
Sub-Total					697	359	61	277	\$0.00	\$0.00	\$0.00	\$0.00
#370	FUTURES	Student	1	1	21	5	1	15	\$0.00	\$0.00	\$0.00	\$0.00
		Adult	1						\$0.00	\$0.00	\$0.00	\$0.00
Sub-Total					21	5	1	15	\$0.00	\$0.00	\$0.00	\$0.00
#210	GARFIELD ELEMENTARY SCHOOL	Student	1	1	291	188	18	85	\$0.00	\$0.00	\$0.00	\$0.00
		Adult	1						\$0.00	\$0.00	\$0.00	\$0.00
Sub-Total					291	188	18	85	\$0.00	\$0.00	\$0.00	\$0.00
#020	HOOVER ELEMENTARY SCHOOL	Student	1	1	549	388	19	142	\$0.00	\$0.00	\$0.00	\$0.00
		Adult	1						\$0.00	\$0.00	\$0.00	\$0.00
Sub-Total					549	388	19	142	\$0.00	\$0.00	\$0.00	\$0.00
#030	JEFFERSON ELEMENTARY SCHOOL	Student	1	1	262	128	16	118	\$0.00	\$0.00	\$0.00	\$0.00
		Adult	1						\$0.00	\$0.00	\$0.00	\$0.00
Sub-Total					262	128	16	118	\$0.00	\$0.00	\$0.00	\$0.00

G. State/county to national level data on Free/reduced lunch



H. Individual Annotated Bibliographies

Jemison, Kyle and Joshua Winicki. 2003. Food Insecurity and Hunger in the Kindergarten Classroom: It's Effect on Learning and Growth. *Contemporary Economic Policy* Vol. 21 No. 2

Purpose:

The purpose of this research is to investigate the correlation between food insecurity and achievement in the classroom among kindergarteners in the United States. The authors, Joshua Winicki and Kyle Jemison are economists serving the American Institutes for Research in Washington D.C.

Subjects:

The authors used an Early Childhood Longitudinal Study which took a sample of 21,260 children in 1,000 schools. The representative sample reflects national demographics with an "oversampling of Asian children."

Methods:

Information about the child was obtained via questionnaire from the parents while assessments of cognitive abilities of the children was administered at the children's school. There were two assessments for parents and two for children. One assessment in the fall and one in the spring. The combination of an 18 question survey and interviews were administered to the parents. Information about the school was also gathered from principals and teachers. Measuring food security was measured with a survey. The participant was deemed food insecure if three or more items are affirmed. If eight or more items were affirmed, the

household was deemed food insecure with hunger. The survey results were statistically analyzed.

Findings:

The authors found that children from households that were at risk of food insecurity tested lower on math exams and learned less over the course of the school year, making those households food secure. This research validates the importance of nutritional stability in households with young children and their ability to learn.

Conclusions/Recommendations

Taking into account the correlations between academic performance and hunger, schools need to maintain breakfast programs. Breakfast programs will ensure children are not distracted by their hunger, increasing their attention span and comprehension of what is going on in the classroom. Implementing an after-school snack program would also help children when they go home to their parents. Further research is needed when trying to measure physical size and weight and the correlation of food insecurity.

Milewka, Marika and Yana V. Rodgers. 2007. *Food Assistance Through the School System. Journal of Children and Poverty* 13:1, 75-95

Purpose:

The purpose of this research is to deepen the understanding of the U.S. food policy safety net by evaluating reasons for children's placement in backpack programs (Milewka and Rodgers 75:2007). It also is to find the impact of the programs on school performance. Yana V. Rodgers is an associate professor of the Women's and Gender Studies at Rutgers University.

Her interests are in economics of gender, the economics of children, and development economics. Marika Milewska received her Bachelor of Arts from Rutgers University. At the time this article was published, she was working as a full-time research assistant.

Subjects:

The authors are testing the first backpack program of its kind, Food for Kids, in Arkansas. Not only is this program the first of its kind, but Arkansas has one of the highest overall poverty rates in the country.

Methods:

The authors teamed up with the Rice Depot, a non-profit working to provide hunger relief in Arkansas, to send out surveys to Arkansas schools in the 2002-2003 and 2003-2004 academic school years. The surveys were completed by faculty and staff to measure behaviors of children in the school. In the 2002-2003 school year, 332 schools participated in the backpack program Food for Kids and 249 schools returned a completed survey, for a response rate of 75 percent. In the 2003-2004 school year, 366 schools participated in the Food for Kids program and 225 schools completed the survey, for a response rate of 61 percent.

Findings:

The authors found that on average, the program distributes food to more than 50 students in each participating school or 18% of total enrollment. More than 18,000 Arkansas children received Food for Kids assistance in the sample schools in 2002-2003. The results also suggest that children receiving the Food for Kids assistance are children who fell through the

safety net of government-funded assistance. Another reason to take into account why children do not have access to food is their parents work habits. It is suggested that 70 percent of schools rank “the parents work but cannot make ends meet” as an important indicator for program placement. Non-working parents also contribute more than 50 percent. Some other indicators to keep in mind is the mental health of the parents. Some parents suffer from drug and/or alcohol abuse.

Conclusions/Recommendations

Results provided a range of benefits for children receiving assistance from the backpack programs. In 2002-2003, the majority of the schools reported that children demonstrate more trusting relationships with faculty and staff. The findings support the argument that the program is effective in that it improves a student’s self-worth and relationships at school. There is also a decrease in behavior problems. Continuing to grow the Food for Kids program will help support educational progress, health and emotional development.

Ecker, Meghan. 2012. *The Backpack Food Program’s Effects on Self-Reported Hunger and On-Task Behavior*. UMI Dissertation Publishing.

Purpose:

The purpose of this research is to evaluate Mankato, Minnesota’s BackPack Food Program’s effectiveness in decreasing self-reported hunger levels. It is also meant to analyze the program’s effect of on-task behavior in the classroom. Meghan Ecker submitted this as a thesis in requirement for her Master of Arts program in Clinical Psychology.

Subjects:

The author used elementary students in grades K-6 from three elementary schools in Mankato, Minnesota. These schools had the highest percentage of students receiving free and reduced lunch.

Methods:

Over the course of three semesters, observations of behavior were recorded for 52 students and hunger surveys were distributed and evaluated for 82 students. The author used the Flexible Observation Recording System Manual to define “on-task” behavior. The manual suggests that there are three major categories to define on-task behavior: concentrating, working and volunteering. The author also used the manual to define “off-task” behavior. The manual suggests that five categories should emerge: looking around, writing, playing, distracted or resting were the major indicators of off-task behavior. The author observed classrooms on Monday mornings from 8:00 a.m. to lunch at 11:00 a.m. Monday mornings were selected because if a child had not eaten over the weekend, there was a greater risk for off-task behavior.

Findings:

The author did not find a correlation between children on the Backpack Food Program and behavior on Monday morning. This may be because the program is being utilized at home. It has also been suggested that parents might skip meals in order for their child to have one, which would result in a child feeling fine on a Monday morning.

Conclusions/Recommendations:

Although specific results were not found, it validates the effectiveness of the program. If the children participating in the program were sent home with a backpack full of food, then they wouldn't show any hunger related off-task behavior on Monday morning.

Summary:

These articles are very similar in the fact that there are correlations between hunger at home and behavior in the classroom among elementary students. All three provide information on local food programs where they utilize a backpack to get food home on the weekends. This will be important for us to understand hunger in schools so we can help the FOCP take its next step.

When a child goes home for the weekend and their family is food insecure, their behavior on Monday morning may be different than in the middle of the week. Findings support that backpack food programs are an effective way to improve a student's self-esteem and sense of self-worth and relationships with others (Rodgers and Milewska 2007). Not only did they find a correlation between hunger and self-worth but they also found that the backpack program in Arkansas did indeed decrease behavioral problems. This reflects the importance for these programs to grow and continue to support health and emotional development.

Jemison and Winicki also found similar issues. Not only does hunger affect behavior in the classroom but it also affects learning over the course of the school year. The study shows that hunger affects initial test scores taken during the fall and occurs over the school year. They

also attempted to find a correlation between physical size and growth but Jemison and Winicki did not conclude anything significant. They suggest that maintaining breakfast programs at school will help increase attention span and comprehension in the classroom.

My last article by Ecker analyzes the Mankato Backpack Food Program and its effectiveness. Using elementary students from three schools in Mankato, grades K-6, the author hypothesized that there would be more disruption on a Monday morning between the hours of 8:00 a.m. -11:00 a.m. This is before the lunch period. This article did not find that there were a correlation between children in the Backpack Food Program and off-task behavior on Monday mornings. This may be because the students are utilizing the program properly and the children are not hungry on Monday morning.

In conclusion, backpack food programs are an effective way to get children that are facing hunger and food insecurity the nutrition they need to succeed in the classroom.

Bruening, Meg, Richard MacLehose, Katie Loth, Mary Story and Dianne Neumark-Sztainer. 2012. "Feeding a Family in a Recession: Food Insecurity among Minnesota Parents." *American Journal of Public Health* 102(3):520-526.

Purpose:

The purpose of this study was to assess the relationships between food insecurity and weight loss, eating patterns, and the home food environment. On a national level it has been found that 16 percent of adults and 25 percent of children are food insecure. This is very much a product of the recession that America experienced in the mid-2000's. Since this economic collapse, many Americans have had to rework their household budgets, allocating money differently and often times having to put grocery shopping on the back burner. Previous

studies have found that food insecurity leads to many young people eating fast food because of its reasonable cost, especially children who have single mothers. This results in many health problems and causes issues in the future.

Researchers:

A number of the researchers in this study are Community Health professors and their focuses are primarily on eating disorders or obesity and often include concentrations in childhood obesity. For the most part they reside in Minnesota, except for Meg Bruening who is currently working at Arizona State University.

Subjects:

The participants in this study were 2,095 parents and caregivers living with adolescents in the Minneapolis-St. Paul, Minnesota area.

Methods:

Researchers sent a survey to 4,777 adolescent's parents who were involved in Project F-EAT in 2009-2010 and 3,709 (77.6%) surveys were returned. Surveys were completed by either mail or telephone interview. Because of the different cultures and ethnicities represented in the study, researchers made the surveys and interviews available in many different languages including English, Spanish, Hmong, and Somali. Researchers for Project F-EAT compensated parents who participated with a \$25 gift card. Survey results were analyzed using multivariate regression analysis.

Findings:

According to the data collected from the surveys, 38.9% of participants reported being food insecure and 13.3% reported very low food security. Parents who reported having lower income and less education were more food insecure than parents with a higher income and more education. Single mothers and younger parents were more food insecure than parents who were older or two parent families. Food insecure families were more likely to consume sugary snacks and beverages like soda and were much less likely to eat breakfast on a daily basis.

Conclusions and Recommendations:

This study concludes that there is an ongoing problem in Minnesota of food insecurity associated with economic status and family structure. The researchers for Project F-EAT recommend that future research discover how factors like stress and finances play a role in food insecurity.

Smith, Chery and Rickelle Richards. 2008. "Dietary Intake, Overweight Status, and Perceptions of Food Insecurity among Homeless Minnesotan Youth." *American Journal of Human Biology* 20(5):550-563.

Purpose:

The purpose of this study is to research homeless youth who live in Minnesota. The researchers' goal was to determine how they are finding their next meal and what they are choosing to eat. Researchers worry about homeless youth because often times they learn ways to find food or resources to buy it which includes stealing, dumpster diving, selling plasma, and pawning their personal items. Researchers would like to find safe ways to keep homeless teenagers off the street and taking care of themselves.

Researchers:

The research authors are part of their respective universities' Food Science and Nutrition Department or Department of Nutrition, Dietetics, and Food Science.

Subjects:

The subjects in this study are between the ages of nine and 18 years of age and reside in two different shelters in Minneapolis, Minnesota. Researchers chose a cross-sectional sample that included 202 youth.

Methods:

In this study researchers did one 24 hour recall instead of doing many different interviews because the youth and their families move around to different locations quite frequently. During these meetings with the youth (and their parents if they chose to be present), researchers questioned the type of food that was consumed, how it was prepared, how they allocated what food they should eat throughout the day, where they ate it, and the amount of food they consumed. Researchers in this study also questioned the participants on how often they exercised. They defined exercise as "things that you do for 30 minutes or longer in which your heart beats faster, you breathe hard, and you sweat". They were given the option of none, 1, 2, 3, 4, 5, 6, 7 or more. Height and weight was also measured by researchers. From this they were able to monitor the adolescent's weight in comparison to their age, BMI and note any gender differences. The subjects were assessed for height, weight, dietary intake, perceptions of food insecurity, and use of coping mechanisms to avoid hunger.

Findings:

There were no significant findings that gender played a role in dietary intake in the 9-13 year old age category. However, it was found that females in the 14-18 year category consume more meat and sodium than males. The study also found that all youth, which includes ages 9-18, consume inadequate amounts of calcium, vitamin D, and potassium. It was also found that most youth consumed less than the estimated average requirements when it came to vitamin A, vitamin C, vitamin E, phosphorus, folate, and zinc. Among the 9-13 year old male youth that participated in this research, 47 percent were found to have a normal BMI, 12 percent were at risk for being overweight, 31 percent were found to be overweight. Among the female youth ages 9-13, 53 percent had a normal BMI, 17 percent were at risk to be overweight, and 30 percent were found to be overweight. In response to the questions about perceptions of food security, 555 of the total sampled believed that they did not have access to enough food at home, 20 percent felt they did not get enough to eat, 25 percent felt they went to bed hungry, and 22 percent had recently missed a meal. When confronted with the statement, "if I am hungry, I will eat foods that I do not like," 24 percent of females from the 9-13 age group and 30 percent of all males agreed. This study found that about half of the homeless youth that were assessed in this study are at risk of becoming overweight or are already overweight.

Conclusion and Recommendations:

This study finds some explanations for the relationship between hunger and obesity, specifically that food insecurity can lead to poor food choices and over eating. In the future these researchers feel it is important to explore how a lack of food affects youth, long term

food choices, and how youth adapt to not having access to quality, or even an adequate quantity of food.

Widome, Rachel, Dianne Neumark-Sztainer, Peter J. Hannan, Jess Haines and Mary Story. 2009. "Eating when there is Not enough to Eat: Eating Behaviors and Perceptions of Food among Food-Insecure Youths." *American Journal of Public Health* 99(5):822-828.

Purpose:

The purpose of this study was to look at previously conducted research data to find how adolescents' eating habits, perceptions of food insecurity, and dietary intake correlates to food security status.

Researchers:

The researchers were all individuals whose careers revolve around health. They specialize in the areas of obesity and community health and wellness.

Subjects:

There are 4,746 middle school and high school students in Minneapolis-St. Paul Minnesota in the 1998-1999 school year. Students were from diverse cultural and ethnic backgrounds. Thirty one schools participated in this study, 27 of which were inner-city schools and four were suburban.

Methods:

Through Project F-EAT researchers provided students with an in-class survey that included questions on benefits and barriers to healthy eating, food availability, and food security. The survey asked students questions like "how often during the last 12 months have

you been hungry because your family couldn't afford food?" The responses were the following options: 1) almost every months, 2) some months but not every month, 3) only one or two months, and 4) I have not been hungry for this reason. Age, grade level, gender and race/ethnicity were self-reported.

Findings:

After researchers analyzed data from the surveys they found that 8.4 percent of adolescents reported being hungry at least once in the past year because their family could not afford food. Four point four percent reported that often or sometimes they do not have enough to eat. It was found that both food security questions were correlated with ethnicity, public assistance, and eligibility for free or reduced lunch. Youth that were food insecure were less likely to meet the goal of eating a number of healthy calories. It was found they are much more likely to consume foods that are high in sodium, and fat.

Conclusions and Recommendations:

The researchers found that food insecure youth were much more likely to become overweight or develop lifelong health issues. They often did not consume breakfast and ate a large amount of fast food meals. The future goal for this research is to show Minnesotans the number of youth that feel they do not have access to adequate food. America is one of the wealthiest countries in the world, yet people are going hungry. Researchers on Project F-EAT would like to see more governmentally funded programs to help the youth in Minnesota stay healthy to live an active life.

Summary:

Studies surrounding food insecurity in youth all come back to the same conclusion, there is a large population of adolescents and children in Minnesota that feel they do not have enough to eat (Bruening, Meg 2012; Smith, Chery 2008; Widome, Rachel 2009). Based on these studies, it can be concluded that many children in Minnesota feel that in the past 12 months their families eat food that they do not like because they are hungry, go to bed hungry, and it is proven that food insecurity plays hand in hand with household income as does lower levels of education (Bruening, Meg 2012).

The studies were based out of the Minneapolis-St. Paul area, and research supports the notion that in many instances, the perceptions of food insecurity among youth do not differ based on ethnicity, race, gender, or homelessness. There are youth of all difference circumstances who feel they could use enhanced access to food in their area. Food insecure youth are going to lengths as extreme as pawning their belongings and stealing to earn enough money to purchase food to keep their bodies satisfied.

A large concern to researchers revolves around the types of food that food insecure parents choose to purchase for their children. In many cases, the food that parents can afford to purchase are salty snacks and beverages that are high in sugar (Bruening, Meg 2012). Because these items are more cost efficient for parents on a low budgets many children in Minnesota run the risk of childhood obesity and developing lifelong health problems, like diabetes (Smith, Chery 2008). The article by Smith, Chery, and Richards (2008) states that children are not getting proper amounts of calcium, vitamin D and potassium. It also states

that out of the sample of 202, 31 percent of males were found to be overweight with 12% being at risk whereas 30 percent were found to be overweight and 17 percent were at risk for females.

Based on these three studies, it is apparent that Minnesota needs better access to high quality food for families to access on a daily basis. A continuation of programs and further evaluation is needed on how to better provide families with assistance.

Edwards, Mark E., Bruce Weber and Stephanie Bernell. 2007. "Identifying Factors that Influence State-Specific Hunger Rates in the U.S.: A Simple Analytic Method for Understanding a Persistent Problem." *Social Indicators Research* 81(3):579-595

Purpose:

This study uses information from the Census Bureau and the US Department of Agriculture to measure of food insecurity to determine which households are food-insecure. By examining state-to-state comparison of food insecurity the study can further evaluate state-by-state problems. Previous research draws connections from financial insecurity to food insecurity but this study seeks to find more causes that might be exclusive to each state. By understanding more specific causes of food insecurity the study seeks to plan better on a case-by-case basis.

Subjects:

Participants in the current population survey (CPS) in 1999 and 2001.

Methods:

This study relied on data from the CPS, a monthly survey conducted by the US Census Bureau. Responses from over 61,000 respondents on the CPS and the CPS Food Security Supplement (FSS) were statistically analyzed. Specifically, the relationship between hunger, household income, unemployment, household structure and home ownership was analyzed, with an emphasis on interstate comparisons.

Findings:

The researchers found that each state's composition and hunger rates differ. Overall the most common relationship of hunger across states was low homeownership rates. While this was the most common theme each state had its own unique characteristics. Oregon's main hunger concerns come from working two parent families. This is an anomaly when compared to the rest of the states that were studied. Minnesota has a lower fraction of the population near poverty so the hunger rates differ. Due to higher rates of homeownership, Minnesota has a smaller problem than the other states. California's low homeownership rate appears to increase hunger conditions. Texas demonstrates similar statistics to California. Florida, like Minnesota, does not show the same effect of Texas and California.

Conclusion:

When examining low hunger rates in high home ownership states further research is recommended to explore housing costs and home ownership issues when exploring hunger. While this is just one aspect of hunger further research should be done on other social context in specific areas. This was done on a state-by-state basis and could benefit from smaller sample sizes in impoverished parts of states instead of examining the state as a whole.

McIntyre, Lynn, N. T. Glanville, Suzanne Officer, Bonnie Anderson. 2002. "Food Insecurity of Low-Income Lone Mothers and their Children in Atlantic Canada." *Canadian Journal of Public Health* 93(6):411-5.

Purpose:

To explore the common occurrence and predictors of hunger and food insecurity in Atlantic Canada for single mother homes. Although previous research shows that single mother homes are more food insecure this study seeks to find common factors that contribute to this phenomenon.

Subjects:

141 single mothers whose children were 14 years or younger and lived Newfoundland, New Brunswick, Nova Scotia, and Prince Edward Island. Their income was less than or equal to (LICO) for the provincial district. They could be on a social assistance program and still be eligible for this study.

Method:

The first method used in this study was a face-to-face interview with qualified and willing participants. A 24-hour recall of food intake was recorded and subsequently recorded 3 more times throughout the process. After these interviews a CORAD questionnaire was created to measure various sub-scales of insufficient food intake. These categories include: mother's food insecurity, household food insecurity, and mother and child hunger. A modified CORAD was used to take weekly measures instead of an annual measure.

Findings:

Universal hunger issues were common in this study. Although there were a few key findings that demonstrated a higher rate of hunger for older single mothers compared to younger single mothers. A common theme among the single mothers is a lack of secondary education. Nearly 78 percent of single mothers in this study did not have any education past high school. In addition 50 percent of all single mothers have not completed high school. Statistical data determined that 96.5 percent of all single mother homes had been food insecure at one point over the past year. Due to variance in funding from month to month there is a common theme of hunger and insecurity in these homes. Maternal hunger was shown as more prevalent than child hunger in these studies. Food insecurity was less prevalent in New Brunswick and this could be due to how social assistance is handed out. In New Brunswick rent is automatically paid and thus not included in social assistance payments, which could lead to easier planning for the single mothers.

Conclusion:

Hunger amongst single mothers is a concerning epidemic which can be more closely examined with further research. Previous research on child hunger is important and relevant in this study but the information provided that shows that mothers may be hungrier than children is a new twist to food insecurity research. This variance in hunger can be attributed to varying social programs in different provinces but not enough to make a forgone conclusion. Research should be directed to social programs for hungry mothers.

Spies, Tracy G., Joseph J. Morgan and Miki Matsuura. 2014. "The Faces of Hunger: The Educational Impact of Hunger on Students with Disabilities." *Intervention in School and Clinic* 50(1):5-14. doi: 10.1177/1053451214532349.

Purpose:

The purpose of this study is to review existing data and literature addressing food insecurity and to draw information about the impact hunger may have on students with disabilities.

Subjects:

There are no subjects in this paper because it is a review of previous literature.

Methods:

This review seeks to make recommendations based on previous statistical data. This includes varying agencies such as US Department of Agriculture (DOA), Center on Budget and Policy Priorities (CBPP), and SNAP. The data is analyzed while also using data of childhood hunger, education, and disabilities. This review is a comprehensive analysis seeking to better understand previous research.

Findings:

Hunger has a direct impact on students in the classroom. Hunger issues and poor diet can also lead to learning disabilities in school. SNAP programs will only supply families with an average of under \$2.00 per meal per family member. It is also evident that many families are struggling to use services. Eligibility requirements of the School Breakfast Program and the National

School Lunch Program are the same, but approximately 20 million children eat free lunches, and only 9.7 million eligible students eat breakfast at school.

Recommendations:

The researchers pointed to signs of hunger as a tool that educators can use to identify children in need. The research recommends a stronger relationship between educators and students. These recommendations include home visits, resources and support for educators, and school administration planning. If a teacher identifies signs of hunger in students they should be knowledgeable of local food programs. Education is the best tool for helping those in impoverished situations to fight hunger and achieve educational goals. If children are in the worst poverty stricken situations it become apparent that educators, who spend a lot of time with children, should be well educated on the details of poverty, hunger, and food insecurity.

Summary:

When combining low income with high housing costs many families are put into a bind on where to apply their financials. Although Edwards (2007) found that housing costs affect hunger in those who own homes, McIntyre (2002) discovered that rent prices have caused families to direct costs in other areas. These might seem like differences but both point to persistent problems in cost of living that greatly affects hunger for families. When combining low income with high housing costs many families are put into a bind on where to apply their financials.

Identifying causes and factors that increase probability of hunger in low-income families can better direct programs that seek to help those in need. Directly giving food to children in need is one way a program can seek to fight against systemic hunger issues. Nearly half of American children are on free and reduced lunch and Spies (2014) suggests seeking to educate the teachers who are in direct contact with children in need.

In Canada there is an alarming amount of single mothers on assistance programs. The programs in place are not nearly enough to help them provide for their families. There seems to be a correlation between rising food costs and low wages. Even in areas where there are high homeownership rates families can still struggle to afford food. This situation is an interesting dynamic because housing costs have ballooned to unaffordability.

Multiple factors associated with poverty can compound the issue of hunger. Previous research shows that 28 percent of children with disabilities live in poverty. Children who live in poverty are more likely to struggle in school and when you take into account disabilities this is a concerning problem for teachers and families. According to Taylor (2005) “children living in poverty are more likely to be retained, suspended, expelled, and drop out.” Poverty is directly correlated with hunger and food insecurity. “*Food insecurity* refers to limited or uncertain access to nutritionally adequate foods acquired through socially acceptable means; *hunger* refers to the pain or discomfort resulting from a prolonged lack of food (Hadley, Zodhiates, & Sellen, 2007).”

Overall increasing housing costs, food costs, and food programs that don’t provide sufficient funds for families to thrive lead to a strong disparity between the haves and have-

notes. Recommendations are made to increase the benefits of SNAP and similar programs, which provide for families to outweigh the rise in housing costs and decrease in well-paying jobs. Hunger is common in single mother homes and supplemental programs for those families should be taken into account to further relieve stress and ensure that families are not going hungry.